

ABSTRACT OF THE DISCLOSURE

A method and circuit arrangement for processing signals which are produced during disturbance-free examination of objects such as pipes or sheet metal, by reflecting ultrasonic waves at defective spots on the structure of the object. According to the method, a complete wave front is emitted on at least one section of the object which is to be examined by means of a plurality of independent transmitting elements, a wave reflected by the structure of the object is received by means of a plurality of receiving elements which are independent of each other, the signals received by the receiving elements are digitalized, and the digitalized signals are stored in a storage element according to amplitude and propagation time. In order to detect defective points on the structure of the object in a faster manner with improved signal/noise ratio, the defective points are detected by a phase-locked addition of the stored amplitude values of the propagation time.